

- (c) a pickup optode unit;
- (d) a dual wave interval spectrophotometer for sensing and recording a NIR wavelength interval;
- (e) a personal computer with software algorithm to separate the cytochrome oxidase, water and hemoglobin absorbance curves for evaluation and display.

*a/f*  
*cont*

25. The system of claim 24, wherein the light source is a stabilized pulsed light.

26. A method of using the system of claim 24 to monitor the change of any natural or manmade chromophore existing in the brain to assist in the diagnosis or treatment of a neurological or psychotic disorder.

Please cancel claim 27 without prejudice.

28. (amended) The invention of claim 24, wherein the spectrophotometer monitors relative changes in redox levels in real-time.

29. (amended) The invention of claim 24, wherein Fourier transforms are used in analyses of near infrared data obtained from the spectrophotometer.

*CJ*

30. (amended) The invention of claim 24, wherein the spectrophotometer includes:

a background pickup device which receives photons that have traversed the scalp and skull but not deep enough to reach the cerebral cortex,

a sample pickup device that is positioned to receive photons that have traversed the scalp, skull dura matter, and pia, and

the background signal is subtracted from the sample signal to result in a signal representing the cerebral cortex.

*a2f*  
*cont*

31. The system of claim 24, wherein the light source is a quartz halogen 150 watt light source.

32. The system of claim 24, wherein the NIR wavelength interval is about 700-1050 nm.--

Please cancel claims 33-39 without prejudice.

*AB*

40. (amended) The invention of claim 24, wherein oxygen in cerebral tissue is monitored by monitoring cytochrome oxidase in the cerebral tissue.

41. (amended) The invention of claim 24, wherein oxygen in cerebral tissue is monitored by monitoring the redox ration of cytochrome oxidase in the cerebral tissue.

Please cancel claim 42 without prejudice.

Please add the following claims:

43. (new) The method of claim 26, wherein the light source is a stabilized pulsed light.

44. (new) The method of claim 26, wherein the spectrophotometer monitors relative changes in redox levels in real-time.

45. (new) The method of claim 264, wherein Fourier transforms are used in analyses of near infrared data obtained from the spectrophotometer.

*AL*

46. (new) The method of claim 26, wherein the spectrophotometer includes:

a background pickup device which receives photons that have traversed the scalp and skull but not deep enough to reach the cerebral cortex,

a sample pickup device that is positioned to receive photons that have traversed the scalp, skull dura matter, and pia, and

the background signal is subtracted from the sample signal to result in a signal representing the cerebral cortex.